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STENOZYPRINAE, A NEW SUBFAMILY OF  
FRESHWATER CYPRID OSTRACODS (CRUSTACEA)  
WITH DESCRIPTION OF A NEW SPECIES  
FROM CALIFORNIA

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The family Cypridae comprises a complex assemblage of ostracods, including both marine and freshwater representatives, which have been assigned to a number of subfamilies. Kaufmann (1900) divided the family Cypridae into eight subfamilies, and Müller (1912) recognized five subfamilies, two of which were marine. Hoff (1942), with some modifications, adopted the system proposed by Kaufmann and recognized six freshwater subfamilies of the Cypridae.

The subfamily Cyprinae includes a conglomeration of genera whose members possess widely varying structural differences. These morphological distinctions suggest that adaptive radiation has proceeded to a point where the Cyprinae is no longer a cohesive taxonomic group. The members of the genus *Stenocypris*, currently included in the subfamily Cyprinae, possess well-developed and distinctly dissimilar furcal rami, a character not known to occur in any other genus of freshwater Ostracoda.

I believe that the structural peculiarities of the furcal rami among representatives of the genus *Stenocypris* are of sufficient diagnostic significance to warrant establishing a new subfamily to receive members of this genus. Consequently, the new subfamily Stenocyprinae is herewith proposed:

Subfamily **Stenocyprinae**, new subfamily  
Class Crustacea  
Subclass Ostracoda  
Order Podocopa

## Family Cypridae

## Subfamily Stenocyprinae

Type genus: *Stenocypris* Sars 1889

*Diagnosis:* A subfamily of the family Cypridae. Shell elongate, narrow, elliptical from above, frequently reniform, surface smooth with scattered puncta; pore canals when present restricted to anterior, posterior, and ventral margins; dorsal margin evenly arched, occasionally flattened; hairs along margins except dorsally; inner duplicature large at anterior end; length usually greater than twice the maximum height. Natatory setae of second antennae barely reaching tips of claws. Ultimate podomere of third thoracic appendage bearing a curved claw-like seta, an extremely short one, and a very long, unreflexed seta. Furcal rami large, lamelliform, dissimilar; dorsal margin of one or both rami either denticulated or pectinated; dorsal seta absent; terminal and subterminal claws heavily pectinated. Males and females, with males unknown for many species.

Type species: *Stenocypris cylindrica major* (Baird, 1859)

*Cypris cylindrica major* Baird, 1859 not Sowerby, Baird 1859, p. 233; Howe 1962, p. 221.

*Cypris malcomsonii* G. S. Brady, 1886, Brady 1886, p. 297, pl. 38, figs. 5-7.

*Cypris (Stenocypris) malcomsonii* Brady, Vávra 1897, p. 146, pl. 4, figs. 1-5.

*Stenocypris malcomsonii* (Brady, 1886) Sars 1889, Sars 1889, pp. 28-34, pl. 1, figs. 7-8, pl. 5, figs. 1-4; Lowndes 1930, p. 975; Lowndes 1931, p. 1294; Furtos 1936, p. 100, figs. 76-80.

*Stenocypris malcomsonii* Brady, Moniez 1891, p. 33; Menzel 1923, p. 194, fig. 1; Lindroth 1948, p. 76.

*Stenocypris malcomsonii* (Brady) 1886, Klie 1933a, p. 474; Klie 1933b, p. 375.

*Stenocypris malcomsonii* G. St. Brady, Vávra 1906, p. 426.

*Stenocypris malcomsonii* (G. Brady), Müller 1912, p. 198.

*Stenocypris malcomsoni* (Brady), Tressler 1937, p. 202; Klie 1939, p. 316; Mehes 1939, p. 559, fig. 4, pl. 13, figs. 7-8; Bronstein 1947, p. 148, pl. 9, fig. 2; Tressler 1949, pp. 72-73, fig. k.

*Stenocypris malcomsoni* (Brady, 1886), Ferguson 1962, p. 65, 67.

*Stenocypris major* (Baird, 1859), Daday 1898, p. 69, figs. 34 a-d; Apstein 1907, pp. 228-229, fig. S; Triebel 1953, pp. 5-14, pl. 1, figs. 1-6, pl. 2, figs. 7-14.

Sars (1889) established the genus *Stenocypris* to accommodate ostracods possessing the following characteristics: "Shell very narrow and elongate, height by far not attaining half the length, ventral margin distinctly sinuated in front of the middle. Valves subequal, free edges smooth, inner duplicature very large, especially at the anterior part. Natatory setae of lower antennae not reaching beyond terminal claws.

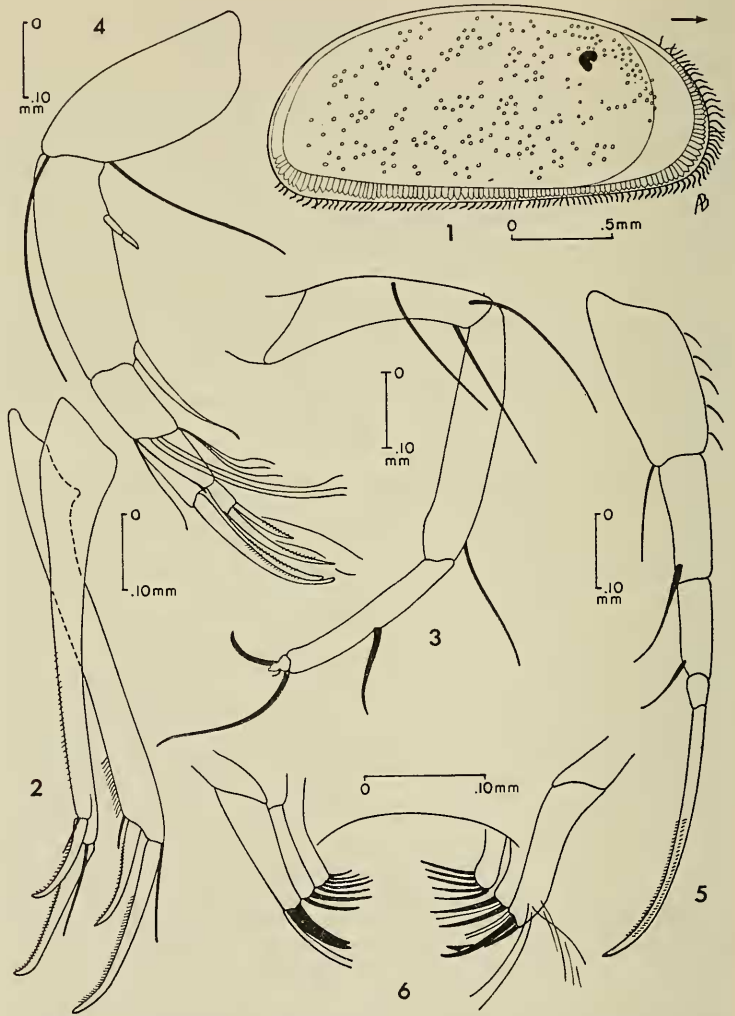
Palpus of first pair of maxillae very narrow, cylindrical, last joint small, masticatory lobes long and narrow. Caudal rami rather large, more or less lamelliform, dorsal edges sometimes pectinate, claws very unequal, both coarsely denticulate, seta of dorsal edge absent or very small, the apical one rather elongate. Reproduction exclusively parthenogenetical." Ferguson (1962) states, "The author is of the opinion that variations in the method of sexual reproduction are not valid criteria for assigning ostracods to taxonomic groups." Ferguson also recommends that Sars' generic diagnosis be emended in order that ostracods that reproduce syngamically, but otherwise generally agree with Sars' description, may be included in the genus *Stenocypris*.

The type species of the genus *Stenocypris* has been, and still is, in a state of uncertainty. Baird (1859) described some ostracods from Nagpur and designated them as *Cypris cylindrica major*. According to Baird the chief difference between his species and the fossil species *Cypris cylindrica* Sowerby is in their relative size, *C. cylindrica major* being about twice the size, in all dimensions, of *C. cylindrica*.

Following his comparison of ostracods from Ceylon with some that he believed to be similar to Baird's specimens from Nagpur, Brady (1886) considered the two series to be similar. He compared both the Nagpur and Ceylon series with fossil specimens of *C. cylindrica* Sowerby, and concluded that Baird had erred in identifying recent ostracods from Nagpur with Sowerby's fossil species. Consequently, Brady proposed the name of a new species, *Cypris malcolmsoni*, for Baird's legitimate and valid species, *Cypris cylindrica major*. Brady (1886) was aware that Baird's specimens from Nagpur were significantly different from Brady's specimens from Ceylon. He said, "The two series are undoubtedly identical; but I learn from my brother, Mr. H. B. Brady, that those preserved in the British Museum are much larger, probably Baird's variety 'major.'" There seems to be no evidence to warrant replacing Baird's *Cypris cylindrica major* with Brady's *Cypris malcolmsoni*. Sars (1886), in referring to Brady's species "malcolmsoni," stated: "This beautiful species is undoubtedly identical with the form described by Baird from Nagpur, India under the name *Cypris cylindrica* Sowb. and more especially agrees with the figures given for his variety 'major.'" Sars feels that he is unable to determine whether *C. cylindrica major* and *C. cylindrica* are conspecific.

It is our opinion that *Cypris cylindrica major* Baird, 1859 and *Cypris cylindrica* Sowerby are not conspecific. However, the evidence seems to support the position that *Cypris cylindrica major* Baird, 1859 and *Cypris malcolmsonii* Brady, 1886 are conspecific. Therefore Baird's species, being the older, according to Article 25 of the *International Rules of Zoological Nomenclature*, takes priority, and hence becomes the valid type species of the genus *Stenocypris* Sars 1889.

Reports on the genus *Stenocypris* from North America have been published by Furtos (1936) for *S. cylindrica major* (Baird, 1859) = *S. malcolmsoni* (Brady, 1886) and for *S. fontinalis* Vávra, 1892 from



FIGS. 1-6. *Stenocypris archoplites*, new species.—Drawings were made from specimens stained with a 1% alcoholic solution of eosin Y and mounted in Canada balsam. 1, Lateral view of right valve of female holotype. 2, Furcal rami of female paratype. 3, Third thoracic appendage of female paratype. 4, Second antenna of female paratype. 5, Second thoracic appendage of female paratype. 6, Right and left maxillae of female paratype.

Yucatan, and by Ferguson (1962) for *S. bolieki* Ferguson, 1962 from Leon County, Florida.

KEY TO THE KNOWN SPECIES OF *Stenocypris* FROM NORTH AMERICA

1. Pore canals form a prominent striated band along anterior, posterior, and ventral margins ..... 2  
     Pore canals either absent or not forming striated band .....  
     ..... *S. fontinalis* Vávra, 1892
2. Both furcal rami denticulated along dorsal margin ..... 3  
     Only the wider ramus denticulated along dorsal margin .....  
     ..... *S. bolieki* Ferguson, 1962
3. Length of the narrow ramus  $15 \times$  least width .....  
     *S. cylindrica major* (Baird, 1859) = *S. malcolmsoni* (Brady, 1886)  
     Length of narrow ramus  $20 \times$  least width .. *S. archoplites*, new species

***Stenocypris archoplites*, new species**

*Specific characters:* FEMALE—Eye prominent. Valves elongate; elliptical from above; surface smooth, transparent, with scattered puncta; greatest height near middle, length approximately  $2.3 \times$  the greatest height; extremities rounded; dorsal margin evenly arched, sloping gradually anteriorly and posteriorly; pore canals form a prominent striated band except dorsally; ventral margin straight; short hairs along margins except dorsally; submarginal line wide at anterior; length 2.2–2.3 mm, height 0.99–1.00 mm. Natatory setae of second antennae, except in a few instances, not reaching beyond tips of terminal claws; terminal claws pectinated along distal half. Mandibular palp with four podomeres, antepenultimate and ultimate podomeres with dorsally and ventrally situated spine-like setae. Spines of masticatory processes of maxillae and of maxillary palp smooth. Second thoracic appendage with four podomeres; ultimate podomere short, rounded, and bearing an elongate terminal spine, which is distinctly curved and pectinated along distal half; length of terminal spine equal to combined lengths of antepenultimate, penultimate, and ultimate podomeres. Each podomere of second thoracic appendage, except ultimate, with a prominent seta at its distal end. Third thoracic appendage with a nipple-shaped ultimate podomere bearing a curved claw-like seta, a long seta, and an extremely short one; length of claw-like seta approximately  $5 \times$  that of shortest one. Caudal rami dissimilar, both rami pectinated along dorsal margin; length of narrower ramus approximately  $20 \times$  its least width; dorsal seta absent; terminal and subterminal spines pectinated; length of terminal seta more than one-half length of terminal spine. MALE—Unknown.

*Type locality:* Specimens of *S. archoplites*, new species, were collected in December 1961 by Stephen B. Mathews, a graduate student in zoology at the University of California, from the stomachs of several specimens of the Sacramento perch, *Archoplites interruptus*. The specimens of *A. interruptus* were taken from Lake Anza, a 10-acre man-made impoundment located within the city limits of Berkeley, California.

*Type specimens:* Stained microscopic mounts of the female holotype and of the two female paratypes are deposited in the U. S. National Museum. Catalogue numbers are, for the holotype, USNM 109322, and for the paratypes, USNM 109323 and USNM 109324, respectively.

*Remarks:* *Stenocypris archoplites*, new species, is apparently the second species of the genus recorded for the United States, and the first species to be taken from the digestive tract of a fish. Considering the widespread distribution of ostracods in all types of aquatic habitats, records of these crustaceans from the digestive tracts of freshwater fish are not as numerous as might be expected.

According to Ward (1940), the ostracod *Physocypris globula* Furtos, 1933 [= *Physocypris pustulosa* (Sharpe, 1897)] serves as the intermediate host of *Neoechinorhynchus cylindratus* (Van Cleave, 1913), an acanthocephalan parasite of the large-mouth black bass. Hoff (1943) reports finding large numbers of *P. pustulosa* in the intestine of the common buffalo fish, *Megastomatobus cyprinella*.

*S. archoplites* differs from *S. bolieki* in the overall length and shape of the valves and in the pectination of the furcal rami. The new species differs from *S. cylindrica major* (= *S. malcolmsoni*) in the length to width ratio of the narrower of the two rami. The narrower ramus in *S. archoplites* has a length that is at least  $20 \times$  the least width compared to a length that is  $15 \times$  the least width in *S. cylindrica major*.

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